Editorial Comment on: Diet, Fluid, or Supplements for Secondary Prevention of Nephrolithiasis: A Systematic Review and Meta-analysis of Randomized Trials

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Treatment regimens aimed at prevention of calcium stone formation in the urinary tract rely, to a large extent, on drinking advice and dietary manipulations. There are also a few pharmacologic alternatives, but side effects and economics usually give preference to the previously mentioned approaches, at least as first-line treatment. Thus, it is reassuring that this careful analysis of the literature [1] provides scientific support for the benefit of high water intake and the associated increased urine flow. Not only did such a routine reduce the recurrence risk, it also helped to improve fragment elimination after shock-wave lithotripsy. The other important observation that came out of this analysis was the negative effect of excessive soft drink consumption. Certainly, that finding reflects undesirable crystallization events attributable to the low pH that is assumed to be linked to the acid content of such beverages.

The absence of solid evidence for the effect of dietary changes is disappointing. Of course, this is not surprising because altering dietary habits is probably much more difficult than expected. Some minor alterations might be achievable in the short term, but a consistent change in dietary habits requires both a very motivated patient and a devoted physician. All of the trials on dietary effects that the authors found were designed to manipulate several dietary constituents, and the patients' compliance is extremely difficult to know without frequent metabolic analyses, despite the use of questionnaires.

To understand the effects of dietary manipulations and food supplements, it is necessary to study the effects of isolated changes, as the authors suggest [1]. Such regimens need to be followed over long periods of time and with careful analysis of the stone history, consisting of regular radiographic examinations. It is also necessary to get further support from repeated analyses of urine composition. In view of the expected frequency of calcium stone formation, follow-up periods of 5[en]7 yr are desirable [2]. It stands to reason that such studies are both expensive and demanding, although obviously necessary.

I also want to include one note caution regarding the possible benefit of increased calcium intake. Undoubtedly, there is strong evidence that low calcium intake is associated with an increased risk of stone formation [3]. But is the opposite true? Will an increased or excessive intake of calcium reduce that risk? In view of the recently demonstrated role of Randall's plaques (calcium phosphate) [4], great care should be taken if such long-term studies are initiated.

The bottom line of this very important review article, in my mind, is that although dietary manipulations still might have an important place in the treatment of patients with recurrent calcium stones, there is an urgent need for the development of effective and side-effect[en]free pharmacologic alternatives.

References

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